CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

July 23, 1999

Kenneth E. Abreu
Development Manager
6700 Koll Center Parkway, Suite 200
Pleasanton, CA 94566

Dear Mr. Abreu,

METCALF ENERGY CENTER DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess project alternatives and potential mitigation measures.

Data requests are being made in the areas of: air quality, alternatives, biological resources, cultural resources, power plant efficiency, facility design, geology, hazardous materials management, land use, noise, public health, socioeconomics, transmission system engineering, visual resources, waste management, and water resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before August 23, 1999, or a later mutually agreed upon date.

If you are unable to provide the information requested, need additional time to provide the information, or object to providing it, you must send a written notice to both Commissioner Robert A. Laurie, and to me, within 15 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)).

A publicly noticed workshop is scheduled for August 3, 1999, at the #412 Coyote Grange Hall, in Coyote, California, (south of San Jose on the Monterey Highway) to discuss and clarify these data requests. Staff will be available to answer questions regarding the data requests and the level of detail required to answer the requests satisfactorily.

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4075.

Sincerely,

Lorraine White
Energy Facility Siting Project Manager

cc: Docket (99-AFC-1)
Proof of Service List
John Hathaway, Calpine Corporation
John Carrier, CH2MHill
Ray Menebroker, California Air Resources Board
Dennis Jang, Bay Area Air Quality Management District
Matt Haber, U.S. EPA, Region IX
David Wright, U.S. Fish and Wildlife Service
Councilwoman Charlotte Powers, City of San Jose
Councilwoman Cynthia Cook, City of Morgan Hill
Carl Wilcox, Department of Fish and Game
John McMillan, San Jose Fire Department
Janet Brennen, MBUAPCD

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Air Quality
Author: Magdy Badr

ISSUE: Most of the offsets presented to the California Energy Commission by Metcalf Energy Center (MEC), identified in a confidential filing, are emissions available in the Bay Area Air Quality Management District's Emissions Reduction Credit (ERC) Bank. However, some of the proposed offsets are not banked yet. According to the federal Environmental Protection Agency (EPA), all proposed offsets must be banked as emission reduction credits (ERCs) prior to issuance of the District's Preliminary Determination of Compliance (PDOC).

1. Please provide details of the progress of the negotiations with the ERC owners, such as letters of intent and/or option contracts, which would indicate the degree of commitment between MEC and the ERC owners to enter into a sales transaction.

2. Identify if any of the unbanked offset sources being pursued by Calpine/Bechtel have been proposed to the District for banking since the AFC was filed. If so, please provide all the details (source's name, address, source type, emission type, and quantity of emissions) on these sources, including copies of the banking applications.

3. Please identify the proposed schedule for any ERC banking actions that have not yet been initiated and how they will affect the District's PDOC schedule.

4. Because the quantity of offsets represented by the sources with which the applicant is currently negotiating do not exceed the project's emission offset liability, failure to reach agreement on the sources (especially the large NOx offset sources) could delay the project licensing process. Therefore, please identify additional NOx offset sources which may be pursued if the sources currently proposed do not materialize.

ISSUE: The District and the Commission staff are concerned with the levels and impacts of NOx and CO emissions during the commissioning period of the Project.

5. Please describe the air quality impacts of the worst case NOx and CO emissions that will occur during the commissioning of the gas turbines and auxiliary boilers.

ISSUE: Appendix 8.1H of the AFC discusses the potential cumulative air quality impact from the MEC. However, the results of the modeling analysis are not shown in the AFC.

6. Please provide the dispersion modeling analyses of the cumulative air quality impacts of the proposed MEC project using the protocol submitted in the AFC. Include in this information, a description of all the sources considered in the analysis.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

ISSUE: The power plant site is located in the Santa Clara Valley, which is surrounded by the Santa Cruz Mountains on the west and the Diablo Range on the east. These mountain ranges along with Tulare Hill, located immediately north by northwest of the site, support serpentine soils and serpentine bunchgrass communities, a California Department of Fish and Game sensitive habitat. These soils also support several serpentine endemic species (species confined to this soil type), many of which are listed (protected) species. Serpentine soils are low in nitrogen, which helps restrict growth of invasive non-native plant species. Nitrogen deposition from the power plant (in the form of nitrate) may promote the growth of non-native species that would compete with the native plant species.

7. Please identify the locations of the project's direct short-term and long-term impacts for NOx, PM10 and CO emissions.

8. Please identify the locations of the project's cumulative short-term and long-term impacts for NOx, PM10 and CO emissions.

ISSUE: The dispersion coefficients used in the modeling analyses to estimate the project's impacts are rural dispersion coefficients. The proposed project location is adjacent to an urban area.

9. Please prepare a formal analysis using Auer's method and land use maps to confirm the validity of using rural coefficients in modeling the project's air quality impacts.

ISSUE: The AFC proposes a CO emissions control level of 10 ppm over a 3 hour averaging time, without the use of a CO catalyst. The AFC also states that the turbines can not meet the 10 ppm level during start-up, power augmentation and duct firing. Therefore, BACT, even at 10 ppm, would not be satisfied.

10. Please explain how BACT for CO will be satisfied in the absence of the CO catalyst given the operational flexibility needed as a merchant project?

ISSUE: Figures 8.1-13 a&b and 8.1-14 a&b identify the project's maximum 24 hour average PM10 levels and the violations of the California 24 hour PM10 standard. These figures indicate that the California standard has been repeatedly violated in the District since 1988. The ambient background of PM10 level used in the modeling analysis is 190% of the California standard. The project's PM10 24-hour impact, excluding cooling tower emissions, represents 14.7% of the California standard.

11. Please explain why cooling tower emissions were excluded from the modeling analysis. Please provide the PM10 impact analysis including emissions from the cooling tower.

12. Please idnntify the rationale for the proposed mitigation for each of the pollutants identified in table 8.1-37 of the AFC.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Alternatives
Author: Eileen Allen, Lorraine White and Gary Walker

ISSUE: Staff believes that Calpine/Bechtel may be able to realize its stated objective of "generating and selling electric power in the newly deregulated electric power market" at another site(s) and by connecting to another substation. Staff needs to assess the options for alternative sites that would avoid or reduce the potential for significant impacts.

13. Please discuss the advantage of an interconnection at the Metcalf Substation versus any other substation in the Greater San Francisco Bay Area. Please explain why other substations in the region are not feasible for this project. If other substations are feasible, please identify these substations.

14. Please discuss the feasibility of repowering or expanding Calpine's existing power plant at Gilroy Foods. Please include the following information:

    a. The acreage, current land use, and general plan/zoning designations of any vacant or unused parcels adjacent to or near the Gilroy Food's plant.

    b. Cooling water and transmission interconnection options.

    c. If not feasible, please explain the nature of the constraint precluding the repowering or expansion of the Gilroy Foods power plant.

15. Please discuss any other existing plant repowering or expansion options considered by Calpine/Bechtel within the Greater San Francisco Bay Area.

16. Please discuss the feasibility of any potential project sites suggested to Calpine/Bechtel by the Planning and Community Development staffs at the Cities of San Jose, Morgan Hill, and Gilroy, and Santa Clara County. Please include acreage, current land use, and general plan/zoning information for any parcels suggested by these agencies. If no consultation occurred please explain why.

17. Please provide the following information regarding Alternative Site B, which is west of the IBM facility:

    a. The assessor's parcel number.

    b. The mapped locations of the residences located on the hillsides surrounding the alternative site.

    c. The distance of each residence, the IBM facility, and the golf course (see AFC Figure 9.2-1b, south of Bailey Avenue) from the alternative site.

    d. The feasibility of a transmission interconnection via a short tie line from the alternative site to PG&E's Metcalf-Moss Landing 500 kV line.

e. Details regarding ownership, availability, and access for staff reconnaissance.

f. A thorough, detailed comparison of the paleontological and cultural resources sensitivity of Alternative Site B compared to the proposed site. Note that in AFC Table 9.2-2 Alternative Site B and the proposed site are both classified as "high" for potential paleontological sensitivity, and Alternative Site B is classified as "moderate-to high" for potential cultural/archaeological sensitivity.

g. Weight limits for trucks traveling on Bailey Avenue and the unnamed roads west of the IBM facility.

18. Please discuss the feasibility of siting the project on any vacant, or unused parcels in the vicinity of Zanker Road, north of Alviso-Milpitas Road and south of Estero Road. Please include the following information:

    a. The acreage, current land use, and general plan/zoning designations of any vacant or unused parcels adjacent to or near the City of San Jose's reclaimed water facilities.

ISSUE: The AFC (Section 9.2) discusses alternative sites. However, the discussion does not appear to be accurate, and staff needs additional information about the site selection process.

19. The AFC (Table 9.2-2) describes the Potential Visual Sensitivity for the proposed site as "Moderate," although the site is near a heavily traveled road. Please explain why Potential Visual Sensitivity is not "High" like Site A. If Potential Visual Sensitivity for the proposed site should be "High" please revise the table.

20. The AFC (Table 9.2-2) states that use of Site A would remove prime agricultural land. However, the text of the AFC (p.9-8) states that soils at Site A "are designated 'non-prime agricultural land.'" Please correct the table.

21. The AFC (pp.9-6 to 9-7) states that "use of Sites A or B would remove land from agicultural use…. The proposed site is also zoned for agricultural use by the County, but it is considered part of a Campus Industrial planning area by San Jose. It is therefore within an area that will be developed for industrial and other business uses. The proposed site, therefore, would have less impact on land use than any of the alternatives." However, examination of AFC Figure 9.2-4 reveals that Site B also has a Campus Industrial designation. Therefore, the proposed site would not have less impact on land use than Site B, based on land use designation. Please revise the text to make this correction. Please also revise Table 9.2-2 to include this factor for all four sites.

22. The AFC (p.9-12) states in regard to the proposed site that "its impacts are the same as, or in some cases, less than, the best alternative site." However,

elsewhere (p.9-9) the AFC describes the potential for Site B to create impacts to visual resources as "low" which is reflected in Table 9.2-2, lower than for the proposed site. In addition, as discussed in the previous data request, Site A is preferable to the proposed site in regard to the removal of prime agricultural lands. Please correct the statement concerning comparative impacts, in regard to visual resources as well as agriculture and soils.

23. The AFC (p.9-3) lists the alternative site selection criteria, one of which is "location of site in southern San Jose area." Please specify the area that was examined for potential alternative sites, and provide a map of the area.

ISSUE: The alternatives analysis does not discuss alternative capacity outputs for the MEC. As a result staff is not aware of any compelling reasons why the proposed power plant must have a generating capacity of 600 MW, and thus, have the associated site requirements.

24. Please provide an analysis of alternative capacity outputs (e.g., 120 MW and 240 MW) scenarios that discusses whether or not a facility with a smaller capacity (with the associated ability to reduce site requirements) would meet local site requirements (e.g., height restrictions, setback requirements and/or avoid the removal of Significant/Ordinance-sized trees).

25. Please provide a description of and site plan for the largest sized (capacity output) facility that would address the following three scenarios: a) meet all setback requirements and avoid the removal of Significant/Ordinance-sized trees; b) meet all setback requirements and height limitations; c) meet all setback requirements.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Biological Resources
Author: Linda Spiegel

ISSUE: The City of San Jose's Riparian Corridor Policy Study, a supplement to the General Plan, provides policy guidelines for development along riparian corridors within the Urban Service Area. The Urban Service Area includes the proposed Metcalf power plant site. Several aspects of the Metcalf power plant proposal conflict with these guidelines. These include:

- Guideline 1C: Development next to riparian areas should be set back 100 feet from the outside edge of the riparian habitat edge. The edge is defined as the dripline of trees, outer boundary of riparian vegetation or top of bank, whichever is greater. The Metcalf power plant site is located adjacent to Fisher Creek. Page 8.2-22 of the AFC states that the north and west sides of the plant will be set back 65 feet from Fisher Creek. Page 8.2-44 states that a 10-foot wide area around the fence line will be kept cleared of vegetation using a herbicide, which will reduce the set back area to 55 feet.

- Guideline 3A: Remnant riparian species (such as valley oak trees) should be retained in the development plan.

- Guideline 6B: Vegetation removal in riparian areas should only be performed for necessary floodway maintenance or to remove exotic plants. The AFC calls for the removal of 85 Significant Trees along the riparian corridor (page 8.2-19 and Table 8.2-34), including valley oak, walnut, and coast live oak.

- Guideline 7B: Direct surface drainage should be directed away from the riparian corridor and applicable Santa Clara Valley Nonpoint Source Pollution Control Program (NPS) Best Management Practices used to control water quality. Pages 8.2-23 and 8.2-27 states that stormwater drainage overflow will be pumped into Fisher Creek.

- Other Guidelines pertain to chemical use and storage, landscaping, lighting and other visual impacts.

The Riparian Corridor Policy Study states that setback exceptions may be considered under limited circumstances. The plan also calls for the completion of a riparian corridor biotic assessment for development projects that are located within a riparian corridor (Appendix C of the plan).

26. Please submit the completed biotic assessment of the riparian corridor, as required by the Policy Study, to CEC and the City of San Jose.

27. Please provide a detailed plan for enhancing the Fisher Creek riparian corridor and adjacent wetland.

28. Please describe the Best Management Practices that will be implemented to ensure high water quality standards of the storm water drainage into Fisher Creek.

29. Please provide the list of herbicides that will be used to maintain the 10-foot wide fire control, the potential affects of these herbicides on the biotic environment, and why alternative methods, such as mowing, can not be employed.

ISSUE: The proposed project calls for the removal of 85 Significant Trees. Significant Trees are defined by the City of San Jose as trees with a circumference of at least 56 inches, measured 24 inches above the natural grade slope. Removal requires a permit that includes public notification and a 30-day comment period. Santa Clara County defines Significant Trees as having a diameter at breast height of 12 inches or greater. Removal requires a County permit. Heritage Trees are defined by the City of San Jose as having a special significance to the community because of a unique quality, species, size or historical value. Removal of Heritage Trees is not permitted. There are several Heritage Trees (Keesling black walnut) as well as Significant Trees, along the water pipeline route. Construction of the pipeline could disturb the root systems, making them susceptible to disease and shock. The applicant is having an arborist prepare a construction impact analysis and a mitigation planting and monitoring plan (page 8.2-54).

Removing these trees will result in the loss of significant riparian habitat, and the reduction of nesting and foraging sites for numerous bird species. The applicant has proposed to replace Significant Trees by a 3 to 1 ratio. However, due to the slow development of the replacement trees, their value to wildlife will be minimal for several years. The applicant also proposes to plant evergreens and riparian trees to provide a visual screening from adjacent neighbors (page 8.2-39). The City of San Jose Riparian Corridor Plan restricts planting along the riparian corridor to native species. Appendix B provides a list of plant species suitable for use in riparian corridors which should be consulted.

30. Please provide the results of the arborist's impact analysis and the mitigation and monitoring plan. If the mitigation and monitoring plan is inconsistent with the Riparian Corridor Plan, please provide an explanation of why and how these conflicts will be resolved.

31. Please provide alternative site plans that would avoid the removal of Significant Trees and justify the need for the current project layout which will result in the loss of 85 trees.

ISSUE: The power plant site is located in the Santa Clara Valley, which is surrounded by the Santa Cruz Mountains on the west and the Diablo Range on the east. These mountain ranges along with Tulare Hill, located immediately north by northwest of the site, support serpentine soils and serpentine bunchgrass communities, a California Department of Fish and Game sensitive habitat. These soils also support several serpentine endemic species (species confined to this soil type), many of which are federally listed. Threats to serpentine community types include nitrogen loading from industrial developments. Serpentine soils are low in nitrogen, which helps restrict growth of invasive non-native plant species. Nitrogen deposition from the power plant (in the form of nitrate) may promote the growth of non-native species that would compete with the native plant species. Studies have shown that competition with non-natives can lead to extirpation of serpentine endemics. Figures 8.1-5a

and 8.1-5c of the AFC shows the prevailing wind direction from the power plant for annual and second quarter (blooming season) time periods to be northwest, or towards Tulare Hill. Tulare Hill has populations of the Santa Clara Valley dudleya (federally endangered) and several host plant species for the bay checkerspot butterfly (federally threatened) and Opler's longhorn moth (federal species of special concern), all serpentine endemics.

The predicted maximum 1-hour NO_x emission concentrations is 72.6 ug/m^3, with infrequent concentrations of 204.7 ug/m^3 during emergency and test operations (page 8.2-43). Mitigation measures proposed (page 8.2-51) include managing NO_x emissions at 2.5 ppm to minimize nitrogen loading on the serpentine soils. Page 8.2-43 of the AFC states that the conversion of NO_x to nitrate will occur away from Tulare Hill and, therefore, no impacts are expected. However, serpentine soils occur throughout the surrounding landscape. Staff feels there is no supporting analysis to justify that these concentrations will not result in adverse nitrogen loading over a period of time.

32. Please provide a detailed impact analysis of nitrogen deposition on the surrounding serpentine soils and associated sensitive plant and animal resources. (Also see Air Quality Data Requests 7 and 8).

ISSUE: Tulare Hill is considered an important serpentine habitat bridge between the mountain ranges on either side of the Santa Clara Valley and a priority 1 recovery area in the U.S. Fish and Wildlife Service's Serpentine Soil Species Recovery Plan (D. Wright, USFWS, Sacramento, pers. comm.). Mitigation measures proposed in the AFC (page 8.2-51) include managing Tulare Hill for the benefit of listed plant and animal species occurring there. Tulare Hill is currently in private ownership.

33. Please describe what measures will be taken to ensure proper management of Tulare Hill can be successfully implemented.

ISSUE: The AFC refers to several surveys that would be conducted after the AFC was submitted. These include burrowing owl surveys that would be done in accordance with CDFG protocol (page 8.2-15); additional surveys for rare plants (page 8.2-30); and a survey of trees on the site and along the water pipeline to determine the condition and exact number of trees that may be removed or potentially damaged by construction (page 8.2-39).

34. Please provide the methodology and results of the surveys mentioned above.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Cultural Resources
Author: Kathryn Matthews and Dorothy Torres

ISSUE: The applicant has provided Confidential Figure 8.3-4b and Figure 2.2-7. When these figures are compared, they appear to indicate that "Newly Discovered Archaeological Resources 1&2" (archaeological loci) may be affected by construction of the project site, laydown area or access roads. In addition, site CA-SCL-448 may be affected by construction of the proposed recycled water line.

35. Please provide a map in the scale of 1:500. On this map, please indicate the relationship of newly discovered archaeological resources No. 1 & 2 to the MEC project site, laydown area, and the proposed and alternate access roads. Please indicate the boundaries of the field survey around the MEC project site, laydown area and proposed and alternate access roads. Also, include a discussion of observed features in the vicinity of newly discovered loci.

36. Please provide a map in the scale of 1:500 of the area surrounding site CA-SCL-448. On this map, indicate the boundary of the site and the relationship between the site, the railroad track, and the proposed recycled water line.

ISSUE: Staff must conduct an independent analysis of the potential for the project to impact cultural resources. Information on generalized construction methods or procedures provides an indication of the potential for construction to cause impacts to previously unknown, subsurface cultural resources.

37. For the power plant site and immediate vicinity, please discuss the estimated depth of anticipated disturbance and the potential for proposed cut and fill activities. Also, discuss the potential for excavation and construction of foundation mats or pads, to enter previously undisturbed soils. Please provide a quantified estimate of the area that will be disturbed. Include any areas that may be located off site, such as parking lots, storage areas, pull sites, and road spurs.

38. For the linear facilities, please discuss the expected maximum and typical width and depth of any required trenches for below-ground pipelines or transmission line disturbances. Also discuss the estimated maximum and typical (or "not-to-exceed" limitations) width of surface disturbance on either side of proposed linear facilities.

ISSUE: Proposed recycled water line segments A, H, I and the proposed domestic water line extend through areas designated as sensitive for cultural resources.

39. Please perform a pedestrian survey of the proposed recycled water line segments A, H, I and the proposed domestic water line to determine the presence or absence of native soils. If any areas of native soils are present, please conduct a field survey of those areas and provide the results. Please provide a map at a scale of 1:24,000 showing the area(s) surveyed and any cultural resources discovered. On the same map, indicate the railroad line, the railroad right of way, and the centerline of proposed trenches.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Power Plant Efficiency
Author: Steve Baker

ISSUE: Staff must examine projected generating efficiency in order to reach conclusions regarding the presence or absence of significant adverse impacts on energy resources.

40. Figure 2.2-4a is a Heat and Mass Balance Diagram, in which various state points are numbered (from 1 to 56). Figure 2.2-4b is a table of the state point values from Figure 2.2-4a, but only state points 1 through 42 appear (43 through 50 are unused). Values for typical fuel consumption and electric power output are needed to calculate a representative value for generating efficiency. In order to enable these calculations, please provide the information for state points 51 through 56 in Figure 2.2-4a, and for state points 5, A and B. Note: Manufacturer's representative figures, corrected for site average conditions, will allow the necessary analysis.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Facility Design
Author: Kisabuli

ISSUE: Staff's analysis must find that the project's design will comply with the 1998 California Building Code (CBC) and City of San Jose design requirements. The Civil Engineering Appendix (Appendix 10A) did not include information traditionally covered under civil engineering.

41. Please provide the Design Codes and Standards, listed separately for Federal, State, City/County. Where applicable provide the editions/years of publication for each. For local agency codes and standards, please specify the requirements that apply to the various aspects of the project and particularly in terms of engineering criteria. Please provide a discussion of the Civil Design Criteria. This topic should cover Foundations, (e.g. design criteria and foundations for rotating equipment) and Design Loads. Also, provide a discussion of the Site Arrangement, Grading & Drainage and Drainage Facilities, Excavations & Backfill requirements, Storm/Sewer Systems and Runoff. Also discuss the site access, and construction or re-construction of the roads to the site and site circulation.

42. The 1998 California Building Code (CBC) is the required reference code, not the UBC. Please make the appropriate corrections to reflect this in Appendix 10A. Also, provide the applicable City of San Jose Ordinances and standards that apply to facility design.

43. Information provided in Appendices 10A (civil) and 10B (structural) is inconsistent with the information provided in Appendix 10G (geotechnical). Example, Appendix 10A is devoid of information (see data request #1), and Appendix 10B is written as if Appendix 10G does not exist. Please revise this information to ensure these three sections are consistent and accurate.

44. The load combinations in 10B3.2.10 and 10B3.2.11.2 of the AFC, Appendix 10B do not correlate with Section 1612.3.2 of the 1998 CBC. Please update this section of the AFC and indicate what load combinations will be used for the allowable stress design. If the load combinations in this section are from a reference other than the 1998 CBC, please provide the reference and also a justification of using these load combinations rather that what is provided in the CBC. Provide a means of calibrating the results obtained by using these load combination and those in the 1998 CBC. Alternatively, use the 1998 CBC.

45. Section 1629.8.4 of the 1998 CBC requires dynamic analysis for: (a) structures having a stiffness, weight or geometric vertical irregularity of Type 1, 2 or 3, as defined in Table 16-L, or structures having irregular features not described in Tables 16-L and 16-M; (b) structures over five stories or 65 feet in height in Seismic Zones 3 and 4 not having the same structural system throughout their height; and (c) structures regular or irregular, located on Soil Profile Type S_F. In order for staff to evaluate compliance:

a. Please provide the site Soil Profile Type as defined in Section 1636 of the 1998 CBC.

b. Please indicate which of the major structures, equipment and components identified in the AFC, (Appendix 10) will require dynamic analysis so that the design of major structures, equipment and components will comply with the 1998 CBC.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Geology/Surface Water Hydrology
Author: Bob Anderson

ISSUE: It is understood that the bulk of the site is at or above an elevation of 252 feet MSL. This is five feet about the FEMA based 100-year, 24-hour flood elevation (247 feet MSL). A portion of the northern part of the site is at an elevation of 250 MSL. The shallow drainage gradient could lead to on-site drainage problems such as ponding of water within the footprint of the power plant. The AFC included a drainage plan but not a legible grading plan. Without a preliminary grading and drainage plan with legible contour elevations, the run-on and run-off surface water flow can not be readily determined.

Staff needs a grading and drainage plan for the power plant that has legible contour elevations so that an independent analysis of the on-site and off-site drainage conditions (before and after construction) can be determined. Without a preliminary grading and drainage plan with legible contour elevations, the run-on and run-off surface water flow can not be readily determined.

46. Please submit a preliminary grading and drainage plan for the power plant at a scale at which the contour interval elevations are legible. Also, please include the contour interval and a bar scale in the legend of the grading plan. With a legible grading plan, the site drainage can be readily assessed. The applicant may want to submit a "D" (24" X 36") sized drawing (five copies) for staff's use. Staff recommends that a bar scale (a scale not prone to the effects of drawing enlargement or reduction) of one inch equals 50 feet be used for the grading and drainage plan.

47. Please include the dimensions and capacity of the on-site storm water basin. Does the surface water from the southeastern portion of the site flow towards the on-site storm water basin or to the east of the site?

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Hazardous Materials Management
Author: Rick Tyler

ISSUE: Staff must assess the potential for impacts on public health in the event of an accidental hazardous materials release. Project specific information is required to perform this analysis.

48. In the Application for Certification, Section 8.12.3, a Protocol for analysis of public vulnerability to an accidental ammonia release was provided. Please provide the results of the vulnerability analysis described in Section 8.12.3. An analysis of an accidental release of hydrochloric acid should also be provided using a similar model and model parameters.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Land Use
Author: Eric Knight

ISSUE: Development of the MEC will require a General Plan Amendment to change the land-use designation of the site from Campus Industrial to Public/Quasi Public. Calpine/Bechtel filed an application to amend the San Jose General Plan on March 1, 1999 (AFC, page 8.4-12).

49. Please provide a copy of the General Plan Amendment application, and, if applicable, any subsequent information requested by the City of San Jose.

ISSUE: In addition to a General Plan Amendment, the MEC will require a zoning change from Agricultural (A) to a Planned Development overlay (A[PD]). In the AFC, Calpine/Bechtel states that it will submit designs and plans for the zoning request to the City of San Jose in June 1999 (AFC, page 8.4-12).

50. Please provide a copy of all information submitted to the City of San Jose for the zone change. If the request has not been submitted to the City, please indicate when the request will be made, and submit copies of all materials at that time.

ISSUE: A 126-acre parcel (APN 708-29-003) of unincorporated land is proposed for annexation into the City of San Jose (AFC, page 8.4-4). A special provision of the Cortese-Knox Local Government Reorganization Act of 1985 (Gov. Code § 56826) states that the Santa Clara County Local Agency Formation Commission (LAFCO) "shall not review a reorganization which includes an annexation to any city in Santa Clara County of unincorporated territory which is within the urban service area of the city if the reorganization is initiated by resolution of the legislative body of the city." While the flat, 10-acre portion of the 126-acre parcel is within San Jose's Urban Service Area, the remaining 116 acres, which make up the southern portion of Tulare Hill, are not. On page 2-1 of the AFC, the applicant states that Calpine/Bechtel is proposing that *San Jose* annex the property within Santa Clara County's jurisdiction. Then on page 8.4-4 the applicant states that *Calpine/Bechtel* is proposing to annex the property. Staff needs to know if annexation will involve review and approval of the LAFCO.

51. Please confirm if it is still Calpine/Bechtel's intention to request annexation of the entire 126-acre parcel. If this is no longer the case, please provide a detailed description of the new annexation proposal.

52. If the Tulare Hill portion of the property (116 acres) will not be annexed, please explain if this land is still part of the "project" and what purpose these lands will serve in relationship to the power plant.

53. Please clarify if it is the City of San Jose or Calpine/Bechtel that will petition the Santa Clara County LAFCO for the annexation.

ISSUE: On page 8.4-11 of the AFC, the applicant provides information on the annexation process. It states that annexation is initiated by submission of a Reorganization Petition and

Prezoning Application, but does not give any indication as to when these applications will be submitted. Staff needs to know if the annexation process has been initiated.

54. Please provide staff with a copy of the completed Reorganization Petition and Prezoning Application. If annexation proceedings have not been initiated, please provide staff with an anticipated date when the required applications will be submitted and provide staff with copies at that time.

ISSUE: On page 8.4-13 of the AFC (section 8.4.5.2 Potential Effects on Land Use), the applicant states that the Master Development Plan for North Coyote Valley is "currently undergoing revision and may include provisions for this proposed land use." The applicant would seem to be implying that revisions to the Master Development Plan would change the type of land use allowed in North Coyote Valley.

55. Please clarify this statement by providing staff with information on the types of revisions being considered for the Master Development Plan, the source of that information, and if Calpine/Bechtel is actively pursuing, with the City of San Jose, changing the allowable land uses in the Master Development Plan.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Noise
Author: Kisabuli

ISSUE: Noise impacts are evaluated by staff using two criteria: (1) The extent to which the requirements of the General Plan, local noise ordinance or community noise performance standards may be exceeded, and; (2) the extent to which likely sensitive receptors are affected by the projected change(s) in noise levels or tonal characteristics.

Staff must understand the project to ensure that the powerplant can be constructed and operated in compliance with the General Plan, local noise ordinance or community noise performance standards.

56. Section 8.5 and page 8.5-1of the AFC states that …"the City of San Jose has established a long-term outdoor noise goal of 55 dBA DNL (average Day-Night Noise Level) and a Master Development Plan requires that at all property lines, noise produced by onsite activities shall not exceed 55 dBA L_{eq} (8 hour peak)." Since the 55 dBA DNL (equivalent to 49 dBA constant noise source) is more stringent than the 55 dBA L_{eq}, (a) please confirm that the powerplant will be designed to the more stringent criteria of 55 dBA DNL (b) confirm that the property line is in references to the powerplant fence line (14 acres as defined in the AFC).

57. The County of Santa Clara has established a nighttime (10 p.m. to 7 a.m.) exterior noise limit at the property line of 45 dBA (hourly L_{50}) for one- and two-family residential areas. Since the annexation request has not yet been approved, please evaluate whether or not the proposed power plant will meet the more stringent Santa Clara's noise ordinance of 45 dBA (L_{50}) at the property line.

ISSUE: It is not clear from reading the AFC what the noise design criteria is for the proposed powerplant. (a) Section 8.5.3.3 and page 8.5-9 states that …"to minimize the impact of operational noise on the surrounding community, the plant will be designed to produce no more than 49 dBA at the nearest sensitive receptor to MEC." (b) Section 8.5.3.5 and page 8.5-10 of the AFC states that …"the average hourly nighttime L_{90} noise level at the receptor designated M1 is 46 dBA, and also that to limit the increase in nighttime noise level to 5 dBA, or a total of 51 dBA, that the plant will be designed not to exceed 49 dBA at this location."

58. If the City of San Jose noise ordinance limits the noise level to 55 dBA DNL or 45 dBA (L_{50}) at the powerplant property line, please describe how does designing the powerplant to a noise level of 49 dBA or 51 dBA at M1 comply with the City of San Jose Noise Ordinance.

59. Please justify the use of 46 dBA (average hourly nighttime L_{90} noise level), increased by 5dBA as a basis for the powerplant design criteria? It is staff's interpretation that a noise ordinance, such as that promulgated by the City of San Jose, should be used as a stand alone and the 5 dBA used only where the existing ambient (background) noise levels already exceed a standard, or there are no feasible mitigation to reduce noise levels to meet a standard.

60. If the lowest L_{90} noise level recorded at receptor M1 on two consecutive nights was 37 dBA and 34 dBA at receptor M2 (AFC section 8.5.2.2 and page 8.5-5), please explain why these noise levels are not used as the design criteria for the powerplant.

61. Section 8.8.3.3 states that …"the plant will be designed so that the cumulative background noise level at the nearest receptor is not increased by more than 5 dBA." Please confirm that the 5-dBA increase will be compared to the lowest recorded L_{90} noise level of 37 and 34 dBA at locations M1and M2 respectively.

62. Please provide a list of the major equipment and their associated far-field octave-band and 1/3 octave-band noise levels. Also, provide the modeling required to assess the noise impacts at the site and the nearby sensitive receptors. This information is required to determine the operational noise impacts to the workers at the site and the nearby sensitive receptors.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Public Health
Author: Mike Ringer

ISSUE: The health risk assessment should use the most recent reference exposure levels (RELs) to calculate hazard indices. On February 10, 1999, The Office of Environmental Health Hazard Assessment Scientific Review Panel formally approved updated acute RELs as part of the Air Toxics "Hot Spot" Program Risk Assessment Guidelines.

63. Please provide a revised acute hazard index based upon the approved February 10, 1999 version of the acute RELs.

ISSUE: Staff is unable to verify the calculation of emission rates for modeling noncriteria pollutant emissions from cooling towers.

64. Please verify the one-hour and annual emission rates and annual impacts in grams/second of the toxic pollutants in Appendix Table 8.1A-3 (staff's calculations indicate that each number in the last two columns of the table may be too low by a factor of ten).

65. If cooling tower emission rates are revised, please update the risk assessment and hazard indices to reflect the changes.

ISSUE: The MEC will use disinfected tertiary recycled water from San Jose's South Bay Water Recycling Program for cooling. Whenever recycled water is used for such purposes, there could be public concerns regarding potential risks to human health from pathogens in the circulating cooling water.

66. Please describe how MEC will treat circulating cooling water to control bacterial growth, including the water-conditioning chemicals to be used and their purposes, and the use of automated monitoring.

67. Please provide an evaluation of pathogenic risks (including risks from *Legionella* bacteria) to human health from the use of treated effluent in power plant cooling towers.

68. Please discuss any inspection and maintenance programs MEC plans for the cooling tower drift eliminators.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Socioeconomics
Author: Jim Adams

ISSUE: The AFC (pages 8.8-10 through 8.8-16) refers to a number of personal communications related to public services such as law enforcement, fire protection and schools. A number of these communications are listed in the references on pages 8.819 and 8.8-20 and were provided as telephone conversation records in the June 9 supplemental filing. However, six references do not have a supporting telephone record.

69. Please provide the telephone records for communications with Wendy Bettle, Sonia Bradley, Don Jackson, Jim Mclure, Mike Schenone, Debbie Nelson, and Martell Talor.

ISSUE: Members of the local community have expressed concerns to staff about the project's impact on local property values. The AFC does not address this issue directly, but staff feels it is an important socioeconomic issue.

70. Please provide an analysis of the potential impacts of the Metcalf Energy Center on local property values. This analysis should consider any previous studies that have examined the effects of a variety of industrial projects on property values.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Transmission System Engineering
Author: Linda Davis

ISSUE: Staff needs a complete interconnection study to analyze the reliability implications of connecting the Metcalf Energy Center project to the Pacific Gas and Electric Company (PG&E) system. Such interconnection must comply with North American Electric Reliability Council (NERC), Western Systems Coordination Council (WSCC) and California Independent System Operator (Cal-ISO) reliability criteria. Due to the electrical proximity of the Metcalf Energy Center project to the municipal electric system of the City of Santa Clara, City of Santa Clara reliability planning criteria should also be addressed.

71. Please provide a complete interconnection study which demonstrates that the Metcalf Energy Center can be reliably accommodated by the existing system, or in the alternate, identify the mitigation measures which are recommended, and which the applicant accepts, to assure conformance with NERC, WSCC and Cal-ISO reliability criteria.

    a. Due to the electrical proximity of the Metcalf Energy Center project to the municipal electric system of the City of Santa Clara, City of Santa Clara reliability planning criteria should also be addressed, the applicant must provide sufficient information to determine impacts, if any, to the municipal system.

    b. While staff does not have sufficient information at present to comment in detail, the applicant must provide sufficient information to confidently identify whether “downstream” transmission upgrades will be needed and/or whether remedial action scheme(s) or other measures are required to meet the applicable criteria.

    c. Additionally, the study scope must be sufficient for the Cal-ISO to review and prepare their conclusions, recommendations and findings on the proposed interconnections in accordance with the Cal-ISO/PG&E Transmission Control Agreement, Section 10.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Visual Resources
Author: Gary Walker/Joe Donaldson

ISSUE: Staff needs to determine the accuracy of the visual simulations provided. The AFC contains visual simulations of the power plant and a general description of the process used to create the simulations. The AFC (p.8.11-11) states that "the images are accurate within the constraints of the available site and project data."

72. Please provide information that allows staff to verify that the simulated sizes of the proposed facilities are accurate. Please include the following:

    a. Specify whether dimensions of existing features were used. If so, specify those features, their locations on a map with scale, and their dimensions.

    b. Specify whether survey poles or other markers were used. If so, show their location in the photograph and on a map with scale.

    c. Provide copies of any intermediate documents used in creating the simulations, including calculations, maps, photographs showing control points, CAD drawings, and wire frame overlays of project components.

ISSUE: Prior to preparing the AFC, the applicant consulted with Energy Commission staff regarding sensitive view areas and locations from which to develop visual simulations and evaluate visual impacts. However, information provided in the AFC and by City of San Jose staff regarding sensitive view areas leads Energy Commission staff to conclude that three additional visual simulations and related analysis are needed.

The AFC (p.8.11-7) states that "the areas north of the power plant site from which taller plant elements are potentially visible include a short stretch of Monterey Road just north of Metcalf Road, the County-operated recreation area at Coyote Parkway Lakes (Figure 8.11-2c.1), and a small portion of the residential area at the southern end of Basking Ridge Road east of U.S. 101 and 1.6 miles northeast of the plant site." City of San Jose staff have stated that the view for southbound travelers is important. The view from the recreation area at Coyote Parkway Lakes is not now represented and AFC Figure 8.11-2c indicates that the project would be visible from this area. The residential area at the southern end of Basking Ridge Road was not identified as a sensitive view area in discussions prior to preparation of the AFC.

73. Please provide a full-page color photographic reproduction and a full-page color visual simulation of the power plant from new KOP 6 (AFC Figure 8.11-2c, at the recreation area at Coyote Parkway Lakes). Please also provide an evaluation of visual impacts from this view area.

74. Please provide a full-page color photographic reproduction and a full-page color visual simulation of the power plant from new KOP 7, representing the residential area at the southern end of Basking Ridge Road. Please also provide an evaluation of visual impacts from this view area.

75. Please provide a full-page color photographic reproduction and a full-page color visual simulation of the power plant from new KOP 8, representing southbound travelers on Monterey Road. Please also provide an evaluation of visual impacts from this view area.

76. Please provide a revised version of AFC Figure 8.11-1, showing the locations of new KOPs 6, 7, and 8.

ISSUE: Staff needs to clearly understand the nature of the proposed design features to reduce visual impacts. The AFC (p.8.11-14) describes the color scheme for the project.

77. The AFC (p.8.11-14) describes the proposed screening on the north and east sides of each of the HRSG units. The simulations from the KOPs do not clearly show the nature of this screening. Please provide color simulations from the north and east showing the project with the screening.

78. The AFC (p.8.11-14) describes the proposed canopies for the sloping back (south) sides of the HRSG units. The description states that the canopies are "designed to appear to hover above the units." However, this effect is not apparent from the simulations from the KOPs. Please provide a color simulation that clearly shows this effect.

79. The AFC states that the HRSG stacks "will be painted a cool gray to reduce their apparent size." Please explain how use of this color would reduce the apparent size of the HRSG stacks. Please specify what baseline conditions would create an apparent size that the use of the proposed color would reduce.

80. The AFC states that "a warm gray color has been selected for the buildings and turbine screening wall, for the pipes supporting the mesh screens around the HRSG units, and for the metal canopies over the sloping backsides of the HRSG units. This color was chosen to help the plant's features appear to recede into the backdrop provided by Tulare Hill when the plant is viewed from Monterey Road and to relate the structures to the buildings that will be developed in the future industrial campus to the south." In the simulation of the project from Monterey Road (Figure 8.11-4b) the backdrop provided by Tulare Hill is light green due to the seasonal color of the grass-covered hill. During much of the year the hill will appear the color of dead grass. Why was a warm gray color chosen instead of a color that more closely matches the colors of the hill?

81. The visual simulations from KOPs 1, 2, and 3 (AFC Figures 8.11-3b, 4b, and 5b) show light blue horizontal bands on the turbine screening wall, but this treatment is not described in the text of the AFC. If the simulations are correctly colored and this color treatment is proposed for the project, please revise the text to address this topic. If not, please provide corrected simulations.

82. The AFC (p.8.11-14) states that "industrial gray will be used for the turbine inlet air filter housings to create an element of visual contrast and to break up the apparent

mass of the turbine screening wall." AFC Figure 8.11-3, from the closest sensitive view area (KOP 1), does not clearly show this effect. Please explain whether this lack of effect is due to the minimal difference that the color will cause or to an inaccurate simulation. If the simulation is not accurate, please provide a revised version.

83. The AFC (p.8.11-15) states that "the landscape plan calls for planting a row of tall growing evergreen trees (pinus halepensus, redwood, or similar species) 15 feet on center along the east side of the plant site and access road in the area along the UPRR tracks. On the south side of the plant site, in the area south of the access road, a row of tall, evergreen screening trees is also called for. In this area, the plan specifies eucalyptus saligna or similar species. In the area along the southern edge of the plant site and along the western edge of the access strip that connects the site to Blanchard Road, informal clusters of oak and other trees will be established."

    a. Please provide the landscape plan, showing the proposed locations for the different species proposed.

    b. Please provide the rationale for selection and placement of each species.

    c. Please provide elevation views (drawings or simulations) of the east and south sides of the project showing what the proposed vegetation screening would look like 5 years, 10 years, and 20 years after the start of operation.

84. Most of the visual simulations of the project (Figures 8.11-3a, 4a, 5a, and 6a, from KOPs 1, 2, 3, 4, and 5) show the proposed landscaping.

    a. Please specify the height used for the simulated trees.

    b. Please specify how many years it would take for the trees to reach this height.

    c. Please provide color simulations from KOPs 1, 2, and 3 showing the project immediately after the landscaping is planted.

85. The AFC (p.8.11-15) describes the measures to be taken to minimize off-site effects of nighttime lighting for the project. However, the description does not include the use of switches, timers, or sensors. Please explain whether such devices are planned to be part of the nighttime lighting system.

86. The AFC (p.8.11-20) states that "the limited effect that the plant will have on landscape quality can be attributed to the fact that the plant and its landscaping have been designed to make a positive architectural statement and to relate to the patterns of the area's existing and planned landscape."

87. Please explain how the plant has "been designed to make a positive architectural statement" despite the fact that the proposed landscaping "stresses the placement

of rows of tall, fast-growing evergreen trees at the edge of the plant site to provide maximum screening of the plant's facilities from public view" (p.8.11-27). This approach contrasts with the City's design goals of reinforcing the concept of rural building massing with tall and columnar trees to create a skyline landscape, and that the central building grouping should be the most lush and ornamental planting area of each parcel. It also implies that the power plant will detract from landscape quality and needs to be screened from view to the extent feasible. In addition, placing rows of trees near the parcel boundaries will not relate to the area's planned landscape of clustering trees near main structures and at entrances.

ISSUE: Staff needs to know what height restrictions may be applicable to the proposed project.

88. The AFC (p.8.11-21) states that "current plans for the industrial campus area will permit buildings up to 90 feet high to be developed, and consideration is now being given to raising this height limit to 120 feet." Please identify the source of the information that consideration is now being given to raising the height limit to 120 feet.

ISSUE: In regard to the visible plumes from the proposed cooling towers, the AFC (p.8.11-20) stated that "Because of the special plume-abated cooling tower design that will be used at the MEC cooling tower plumes will be a rare occurrence, appearing a few times at most during the coldest days of a year." However, the AFC did not provide a description of the "plume-abating cooling tower design." Energy Commission staff noted this data deficiency in its review of the AFC.

As part of the June 7, 1999 response to Energy Commission staff's data adequacy review, the applicant described the "wet/dry" cooling tower technology that would be used to reduce cooling tower plumes (p.8.11-15). The response states in part that "the specific design conditions for the MEC project will be developed to provide the plume abatement capability necessary to satisfy the concerns of local neighbors to the project." Staff agrees that the concerns of local neighbors should be considered, but they should not provide the only basis for design conditions. Impacts can also occur to travelers in the vicinity, and the City of San Jose has expressed concern about the potential visual impacts of plumes. However, for purposes of analysis, please specify the design conditions and abatement capability that the applicant proposes for certification.

89. In regard to the cooling tower plume, please provide the following information:

90. Quantified estimates of the expected maximum and average height and width.

    a. The data, assumptions, and calculations used to derive these estimates, including the model used.

    b. Quantified estimates of the expected frequency of occurrence and duration, specifying:

i. the number of hours that the plume will be visible, for each hour of the day per year;

ii. the total number of hours per year that the plume will be visible;

iii. the percentage of the total number of hours per year that the plume will be visible;

iv. the number of daylight hours per year that the plume will be visible; and

v. the percentage of daylight hours per year that the plume will be visible.

c. The data, assumptions, and calculations used to derive these estimates, including the model used.

ISSUE: The applicant's data adequacy response (pp. 8.11-15 to 8.11-16) states that "under almost all circumstances, no visible water vapor plumes will be seen eminating [sic] from the plant's HRSG stacks. However, there may be a few occasions during the year when temperatures are low and humidity is high that condensed steam may be visible coming out of the stacks. These conditions are expected to occur primarily at night and in the early morning hours. Staff needs to know how the characteristics of the HRSG exhaust stack plume for the project.

91. In regard to the HRSG exhaust stack plumes, please provide the following information:

a. Quantified estimates of the expected maximum and average height and width.

b. The data, assumptions, and calculations used to derive these estimates, including the model used.

c. Quantified estimates of the expected frequency of occurrence and duration, specifying:

i. the number of hours that the plume will be visible, for each hour of the day per year;

ii. the total number of hours per year that the plume will be visible;

iii. the percentage of the total number of hours per year that the plume will be visible;

iv. the number of daylight hours per year that the plume will be visible; and

v. the percentage of daylight hours per year that the plume will be visible.

d. The data, assumptions, and calculations used to derive these estimates, including the model used.

92. Please discuss the feasibility of measures to abate potential visible plumes from the HRSG stacks.

ISSUE: AFC Table 8.11-2 shows an auxiliary boiler stack as a major power plant feature. However, the AFC does not address the potential for visible plumes from the auxiliary boiler stack.

93. In regard to auxiliary exhaust stack plumes, please provide the following information:

a. Quantified estimates of the expected maximum and average height and width.

b. The data, assumptions, and calculations used to derive these estimates, including the model used.

c. Quantified estimates of the expected frequency of occurrence and duration, specifying:

i. the number of hours that the plume will be visible, for each hour of the day per year;

ii. the total number of hours per year that the plume will be visible;

iii. the percentage of the total number of hours per year that the plume will be visible;

iv. the number of daylight hours per year that the plume will be visible; and

v. the percentage of daylight hours per year that the plume will be visible.

d. The data, assumptions, and calculations used to derive these estimates, including the model used.

ISSUE: The Riparian Corridor Policy Study for the City of San Jose (May 1994) (Fig. 1) shows Fisher Creek, adjacent to the project site, to be in the study area. The study includes setback and buffer widths as well as guidelines for building appearance (2A), mitigation of

visual impacts (2C), and lighting (2E). Staff must evaluate the project's compliance with these guidelines.

94. The study (p.31) states that "all buildings, other structures (with the exception of bridges and minor interpretive node structures), impervious surfaces….and ornamental landscaped areas should be separated a minimum of **100 feet** from the edge of the riparian corridor (or top of bank, whichever is greater)." However, the AFC (p.8.2-22) includes a minimum setback of only 65 feet. Please explain why the project is not designed to comply with the setback requirements of the study, whether the applicant contends that the project qualifies for a setback exception, and if so, the grounds for the exception.

95. Please describe in general how the project will comply with the City of San Jose's Riparian Corridor Policy Study guidelines for building and fixture design and landscaping.

96. Guideline 2A specifies that "in riparian forest settings located in more rural or suburban areas of the city, building facades should blend visually with the surrounding natural landscape." Please discuss whether and if so how the project complies with this guideline. Please provide a drawing or simulation of the proposed project from the riparian corridor.

97. Guideline 2C states that "the adverse visual impact of existing or unavoidable incompatible uses such as parking areas, loading zones, trash enclosures, mechanical devices, and similar accessory uses should be minimized by landscaping, hedging, berming, low walls and site design." Please discuss whether and if so how the project complies with this requirement.

98. Guideline 2C also states that "Rooftop equipment should be screened from view from any riparian corridor or recreational, educational, or interpretive facilities within the riparian corridor." Please discuss whether and if so how the project complies with this requirement.

99. Guideline 2E states that "lighting on development sites should be designed and sited to avoid light and glare to wildlife within the riparian corridor, consistent with public safety considerations. Any lighting located adjacent to riparian areas should be as low as feasible in height (bollard lighting is preferred) and must be directed downward with light sources not visible from riparian areas." Please discuss whether and if so how the project complies with this requirement.

ISSUE: It is difficult to follow the descriptions in the text of the AFC because many of the streets and other features mentioned in the AFC are not shown on Figure 8.11-1. Features identified in the text but not shown on Figure 8.11-1 include but are not limited to Basking Ridge Road, the residential area near the end of Basking Ridge Road, Monterey Road, Silver Creek Hills, Coyote Narrows, Blanchard Road, Dougherty Avenue, the "recreational corridor", and Coyote Parkway Lakes. The AFC describes distance zones and bases some analyses on these, but distance zones are not shown on Figure 8.11-1. The proposed gas, recycled

water, industrial wastewater, and domestic water lines that would be underground may be visible during construction should be shown on the figure. Also, showing the city and county jurisdictional boundaries on the map would aid staff in determining the project's compliance with applicable laws, ordinances, regulations, and standards.

100. Please revise Figure 8.11-1 to include the following information:

    a. Please indicate the locations and accurately label all of the streets and other features mentioned in the text of the Visual Resources section of the AFC that are not shown on Figure 8.11-1.

    b. Please indicate distances from the proposed Metcalf Energy Center using concentric rings of dashed lines at spacings of ½ mile, 1 mile, 2 miles, 3 miles, and 4 miles.

    c. Please indicate the locations of the underground proposed gas, recycled water, industrial wastewater, and domestic water lines.

    d. Please indicate the locations of the city and county jurisdictional boundaries.

ISSUE: Existing tall trees along the south edge of the project site indicated in AFC Figures 1.1-4 and 8.11-3a could provide some natural visual screening for the project. However, the project as proposed would remove most or all of these trees, as indicated in AFC Figures 1.1-5 and 8.11-3b. The AFC (Table 8.2-5, p.8.2-34) states that the project would cause the loss of approximately 85 trees, and that most are Significant size trees.

101. Please explain why the power plant facility was not designed in a manner that would retain the existing tall trees along the south edge of the property for visual screening. Please discuss the feasibility of redesigning the facility to retain the trees, and any design changes that would be required to accomplish this goal.

ISSUE: As stated in the AFC, colors proposed to be used for the plant, including cool gray, warm gray, and industrial gray, have been selected to help reduce the plant's visual prominence in various ways.

102. Please provide information in the form of summaries from literature or studies, including the references for this information, that support the assumptions stated in the AFC that these colors would be the most effective ones for helping the plant to blend with or recede into its surroundings.

ISSUE: The AFC (p.8.11-3) states that "the overall design concept embodied in the design guidelines is to follow the example of the IBM complex, encouraging the development of tall (up to 90-foot high), dense structures surrounded by generous setbacks that are landscaped in a way that creates a rural and natural feeling." However, photo 3 in Figure 8.11-2a shows the IBM campus having buildings that appear to be about 5-stories high that would be about 50-60 feet in height. If this is correct, the height of the IBM buildings is substantially lower

than the proposed height of the plant structures and comparison of the visual character of the proposed project with that of the IBM complex would appear to be misleading. Also, it is not clear from the visual simulations and descriptions provided in the AFC that the setbacks and landscaping create "a rural and natural feeling."

103. Please specify the actual height and number of stories of the IBM complex buildings shown in Photo 3.

104. Please provide a detailed explanation of how the proposed project would "follow the example of the IBM complex" and include a comparison of the designs of the two projects.

105. Please provide a detailed explanation of how the setbacks and landscaping for the proposed project would create a "rural and natural feeling" for the project.

ISSUE: The AFC (p. 8.11-12) identifies significance criteria from Appendixes G and I of the CEQA Guidelines that were revised last year. The three criteria shown are no longer accurate.

106. Please identify the current correct criteria for determining significant visual impacts in the revised State CEQA Guidelines.

ISSUE: The AFC (p. 8.11-12) states in the section entitled "Analysis Procedure" that "the visual impact assessment was based on evaluation of the changes to the existing visual resources that would result from construction and operation of the MEC Project. These changes were assessed by evaluating the 'after' views provided by the computer-generated visual simulations, and comparing them to the existing visual environment." This approach to the analysis is consistent with CEQA guidelines which require comparison of changes of the proposed project to the existing conditions. However, the analysis that follows repeatedly draws conclusions about visual impacts based on future conditions and views in and around the surrounding area.

107. Please explain how the descriptions of and conclusions about visual quality, character, and impacts that are based on future conditions in the surrounding area would be consistent with the identified analysis procedure and CEQA guidelines.

108. Please provide revised text that evaluates the project's effects on the visual character and quality of the existing setting, as distinguished from its effects on future potential or planned conditions.

ISSUE: The AFC (p. ES-5) states that the HRSGs will be approximately 80 feet high, but Table 8.11-2 indicates the height of the units to be 105 feet.

109. Please identify the correct height of the HRSGs.

ISSUE: The visual resources section does not contain a description of the impacts of the project during construction, including the location and appearance of the construction laydown area.

110. Please provide a detailed description of the visual impacts of the project during construction, including the location and appearance of the construction laydown area and lengths of time required for construction of key elements of the project, including but not limited to the power plant, any access roads, and all linear facilities.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Waste Management
Author: Mike Ringer

ISSUE: Construction of linear facilities may disturb earth that has been contaminated by toxic substances, creating waste management or public health concerns.

111. Please provide information on any known sites (e.g., hazardous substance release sites, leaking underground tanks, groundwater pollution) which may be encountered during excavation for, or construction of, linear facilities.

112. Please describe the procedures which will be followed to assure proper management of contaminated soil, if any is encountered during excavation or construction of linear facilities.

ISSUE: In the Phase I Environmental Site Assessment (ESA), Environmental Resources Management recommends further sampling and investigations of the proposed site. The AFC states that a limited Phase II ESA will be conducted upon or after submittal of the AFC (AFC p. 8.13-2).

113. Please explain what the status is of the Phase II ESA and when MEC plans to submit the results of the assessment to CEC staff.

METCALF ENERGY CENTER
DATA REQUESTS
(99-AFC-3)

Technical Area: Water Resources
Authors: Joe O'Hagan and Mary Elizabeth

ISSUE: The critical issues for water and soil resources identified to date are metal, temperature and TDS contamination of the South San Francisco Bay, ecological and public health concerns associated with cooling tower drift of recycled source water, the permitting, construction and use of an onsite wastewater treatment plant, water supply, and flooding potential.

The Metcalf Energy Center (MEC) project has proposed to use San Jose/Santa Clara Water Pollution Control Plant (WPCP), San Jose MUNI or onsite wells to supply water for cooling and condensing the steam turbine exhaust. The use of recycled water provided by the San Jose/Santa Clara WPCP is of potential environmental benefit because this water would otherwise have been discharged to the South San Francisco Bay where impacts associated with metals loading and conversion of saltwater marshes to freshwater marshes have been identified by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). MEC's use of recycled water for cooling by evaporation results in a decrease in the volume of water returned to the San Jose/Santa Clara WPCP thereby decreasing impacts associated with freshwater marsh conversions. However, by decreasing the volume of water discharged by San Jose/Santa Clara WPCP, the concentration of metals in the effluent will increase even though mass loading will remain the same.

In order to assess impacts to the South San Francisco Bay associated with wastewater discharges from the MEC project please submit the following information:

114. Copies of the San Jose/Santa Clara WPCP's 1996, 1997, and 1998 annual NPDES monitoring reports and pretreatment reports submitted to the SFBRWQCB, along with any correspondence or amendments associated with compliance with and NPDES permit conditions.

115. A copy of correspondence from San Jose/Santa Clara WPCP indicating their willingness to install infrastructure and to provide recycled water in sufficient volumes to serve the needs of the MEC project.

116. A copy of pre-treatment limitations that San Jose/Santa Clara WPCP will impose on the MEC project.

117. Reports prepared by the Watershed Management Initiative Stakeholders group documenting progress towards development of Total Maximum Daily Loading (TMDL's) for mercury, copper, and nickel in South San Francisco Bay.

ISSUE: The City of San Jose staff has prepared analysis indicating that the parameters of concern when discharging the concentrated plant wastewater were TDS and temperature (City of San Jose's memo dated May 19, 1999 (AFC Appendix 8.14, 1999)). Of the 4.5 mgd of water supplied, 3.6 mgd will be evaporated and 0.9 mgd discharged to the treatment plant as blowdown. The blowdown will be discharged to the sanitary sewer. City of San Jose staff

calculated that given the above usage of recycled water the resultant increases in the San Jose/Santa Clara WPCP effluent of TDS would be 6.3% and of temperature would be 0.4%. The iterative methodology used to obtain these estimates was not provided in sufficient detail so that the methodology may be duplicated under different flow scenarios. The AFC indicated that from 2.9 to 5.8 mgd would be required, of which 0.6 to 1.9 mgd would be returned to San Jose/Santa Clara WPCP.

118. Provide an explanation of the iterative scheme used to calculate an estimated increase of effluent TDS concentrations and temperature. The requested information should be sufficient to evaluate the validity of TDS and temperature impacts presented by the City of San Jose and to apply the same methodology for effluent of different concentration and temperature.

ISSUE: The distribution and use of recycled tertiary treated wastewater in the San Francisco Bay Region is primarily regulated by two agencies, the California Department of Health Services and the SFBRWQCB. There are numerous regulations and statutes that define the quality and uses of recycled wastewater. Recycled water is defined by the Water Code as any water that has undergone treatment and is suitable for a direct beneficial use, such as industrial supply. The Water Code Section 13521 further authorizes the Department of Health Services to establish recycling criteria which restricts the levels of constituents in recycled water so as to protect public health. In order to distribute recycled water, a Master Reclamation permit (Master Recycler's permit) must have been issued by the SFBRWQCB pursuant to Water Code section 13523.

The use of recycled water for evaporative cooling using cooling tower stacks results in the potential for drift to contain constituents present in the recycled water. Additional information is required to assess the potential for the recycled water provided by the San Jose/Santa Clara WPCP to impact public health and the environment.

119. Please submit a copy of the San Jose/Santa Clara WPCP Master Recycler's Permit and compliance reports.

120. Submit a description of the additional treatment cycle and Title 22 treatment for the MEC cooling towers that will removal metal loading of the recycled water supplied to MEC.

ISSUE: The State Water Resources Control Board's Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling Resolution 78-58 states that the use of freshwater for evaporative cooling may be considered as unreasonable use of the water and requires an analysis of alternative sources of cooling water including recycled water. In order to verify that there is sufficient recycled water available to provide a reliable source of cooling water additional information will be required.

121. Provide information that describes the current capacity of the existing recycled water pipeline and demonstrates that there is sufficient capacity to provide the required volume of recycled water to cool the proposed plant.

122. Provide information that quantifies the existing volume of San Jose/Santa Clara WPCP wastewater suitable for use as recycled water.

123. There are typically greater wastewater influent flows and hence outflows during daytime hours. Provide information regarding the daily and seasonal variability in supply and what accommodations the San Jose/Santa Clara WPCP may employ to ensure a constant supply of recycled water.

ISSUE: The AFC indicated that there would be at least 20 daily workers once the plant is constructed, it may be necessary to obtain a small water system permit, if groundwater is available for potable use. Cross-connection controls may be required to ensure that potable water supplied onsite is not contaminated with recycled water, since the recycled water will only be treated for industrial use. Additionally, the AFC (2-10) indicated that 30,000 gallons of water would be available for plant service water during any interruption of the normal supply of potable water.

124. Please contact the Department of Health Services (DHS) and submit to the California Energy Commission information indicating whether or not a permit is required. If the DHS determines that a small water system permit would be necessary, submit to the California Energy Commission all information provided to DHS.

125. Please submit clarification that the stored plant service water would not be used as a source of potable water, unless adequate cross-connection control devices were installed.

ISSUE: Wastewater discharges from the MEC project will contain contamination associated with the proposed use of various treatment chemicals including sulfuric acid, phosphate and sodium hypochlorite. These chemicals are proposed for use in order to prevent scale and biofouling. Additionally, the AFC included a statement that MEC would be considered by San Jose/Santa Clara WPCP as a Type 2 Discharger because MEC does not use copper or nickel as part of its operational process. The AFC stated that the surface condenser and heat exchangers would be designed in accordance with the Heat Exchanger Institute, and Tubular Exchanger Manufacturers Association, respectively. The most common condenser tube materials include copper based or stainless steel. Copper based piping corrosion increases the concentration of copper and other metal in the wastewater stream.

126. Based on representative water chemistry data, estimate the mass loading of these treatment chemicals.

127. Submit information verifying that copper-based condenser piping will not be used for the MEC project. If copper-based piping is used, additional analysis will be required to estimate the loading of various metals resulting from pipe corrosion.

ISSUE: A City of San Jose Water Resources Policy (San Jose 2020 General Plan) states that the City should not permit urban development to occur in areas not served by a sanitary

sewer system. The elimination of reliance on septic systems for wastewater disposal protects groundwater resources from septic contamination. The AFC (2-12) stated that sanitary wastewater would be disposed on site using a package sewage treatment plant. The AFC (8.14-14) further stated that the accumulated waste would be periodically removed by truck for disposal at the WPCP.

128. Please submit all information necessary to obtain a permit to install and operate a packaged sewage treatment plant in Santa Clara County

129. Please submit summaries of all regulatory contacts made regarding the proposed onsite package sewage treatment plant.

130. Please submit information verifying that the San Jose/Santa Clara WPCP accepts offsite sludge for disposal.

131. Please submit information explaining why the blowdown and sewage waste streams will be handled separately.

ISSUE: Two alternatives have been identified as sources of water should service of recycled water by San Jose/Santa Clara WPCP be interrupted. Both alternate water sources, San Jose MUNI and on-site wells rely on groundwater resources. The City of San Jose Water Resources Policy (San Jose 2020 General Plan), states that water resources should be utilized in a manner which does not deplete the supply of surface or groundwater, and efforts to conserve and reclaim water supplies, both local and imported, should be encouraged.

132. Please submit a copy of the 1985 North Coyote Valley Water Master Plan.

133. Please submit a copy of the will-serve letter from the City of San Jose indicating that 4,100 gpm will be supplied and under what conditions.

134. If on-site groundwater wells are to be used, please submit all permitting information and documents necessary for installation and operation of these wells.

ISSUE: In order to safely extract up to 3,800 gallons per minute (gpm) a groundwater resources investigation is warranted to assess current demands.

Construction data for the City of San Jose MUNI Wells #21-23 was provided and information regarding the current pump rate. These wells are constructed to a maximum depth of 270 feet below ground surface (bgs) and screened between 90 to 150 and 170 to 250 feet bgs. These wells were planned to operate at a pumping rate of 2,000 gpm; however, only Well #23 is in operation. Well #23 currently supply 300 gpm for local irrigation needs.

A geotechnical subsurface investigation was performed that included the installation of a monitoring well and several borings to a maximum of 101.5 feet bgs. The monitoring well was installed in boring B-110, which was drilled, to a maximum depth of 101.5, according to the drilling schedule. The boring log for B-110 indicated that the borehole was grouted to the surface. The well completion diagram for well B-110 did not specify any abandonment

procedures employed from total depth to 26.5 feet bgs. A cross-section was submitted for B-113, B-114, B-110, and B-106. The reference to B-106 is included twice in the cross-section. A series of slug tests were performed on the monitoring well which had a 10 foot screened interval.

135. Submit data including the results of pump testing of the MUNI wells #21-23 and the current condition of the two MUNI wells which are inactive and capped, along with any additional aquifer testing that maybe proposed, to demonstrate that these wells are able to supply the necessary groundwater to supply the needs of the project, on a backup basis. Also, please include the schedule for the additional aquifer testing.

136. Submit information clarifying the completion of well B-110.

137. Submit a site map indicating the area mapped in cross-section.

138. Submit a revised cross-section accurately depicting the boring information used to make the geological interpretation.

139. Submit the data obtained during slug testing of the onsite monitoring well.

ISSUE: The AFC (8.14-2) stated that a well inventory was not conducted because access to the California Department of Water Resources (DWR) well records could not be obtained. California Energy Commission staff has contacted the DWR and pursuant to Water Code section 13752 may authorize access to well records within the zone of project influence. Specific well identification data shall remain confidential and shall be provided to the California Energy Commission pursuant to California Energy Commission Siting Guidelines Appendix B (16)(D) and Title 20, California Code of Regulations, section 2501 et seq., unless well owner permission is granted.

140. Submit a one-mile radius well survey including all domestic, industrial, and irrigation wells that may be affected by the extraction of groundwater necessary to serve the needs of the project . This survey should be conducted for proposed on-site well locations and any existing wells being considered to serve the project. Include also information regarding well construction details and any preliminary pump test information reported to the DWR.

ISSUE: The estimated reduction of groundwater outflow from the basin at Coyote Narrows of up to 15 percent did not consider other future groundwater users in the Coyote Valley Basin.

141. Submit addition analysis assuming complete build-out of the already planned Coyote Valley Campus Industrial Development and residential development to the south of Bailey Road.

ISSUE: The Santa Clara Valley, including the Coyote Creek area has been subject to multiple studies of land subsidence problems. The AFC (7-6) indicated that recharge from Coyote Creek would be sufficient to provide groundwater that can be extracted from San

Jose MUNI Wells #21, 22, and 23. The AFC (8.14-2) stated that groundwater flows through the basin northward until the Coyote Narrows is approached. In this area groundwater movement is constrained causing discharge to Coyote Creek.

142. Please also provide discharge flows for Coyote Creek in the vicinity of these wells.

143. Submit information to clarify the conflicting statements that Coyote Creek is a gaining and losing stream.

ISSUE: The "Phase I Environmental Site Assessment" prepared by Environmental Resource Management (ERM) identified a leaking underground fuel tank (LUFT) site approximately 0.5 miles upgradient of the proposed power plant site, assuming that groundwater flows in the vicinity of the LUFT site from south to north (regional groundwater flow direction). The potential exists for MTBE to affect groundwater extraction operations is evidenced by a 1998 shutdown of a Great Oaks Water Company well due to low levels of MTBE contamination. If MTBE has contaminated groundwater beneath the Universal Gas site (8125 Monterey Road) then onsite groundwater pumping associated with the proposed project could alter the local gradient increasing the migration potential of MTBE.

The data summarized in Table 8.14-2 (8.14-6) suggests that MTBE as well as chlorinated solvents have been detected in groundwater planned for MEC use.

144. Please clarify if these data are estimated or actual values and the identity of the well from which these samples were collected.

145. Please provide copies of the tank removal results and cleanup status to better characterize the potential for groundwater contamination and possible timeframe for additional investigation.

ISSUE: The City of San Jose 2020 General Plan states that when new development is proposed in areas where storm runoff will be directed into creeks upstream from groundwater recharge facilities, the potential for surface water and groundwater contamination should be assessed and appropriate preventative measures should be recommended. In order to monitor for potential water quality impacts associated with storm water discharges, information regarding background water quality will be necessary.

A NPDES: General Construction Activity Storm Water Permit is required for stormwater runoff during construction and requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). This plan identifies best management practices to reduce sediment, oil and other contaminants in stormwater discharges from the site. Once the project has been constructed and is in operation, a NPDES General Permit for Industrial Activities also requires the preparation and implementation of a SWPPP. These permits are required to reduce the discharge of contaminants in stormwater discharge from industrial facilities.

146. Please submit an assessment of background levels of contamination in Fisher and/or Coyote Creek in the vicinity of the MEC project. Sampling to assess

background conditions may be necessary to adequately assess the risks of contamination originating from the MEC project.

147. Submit copies of permitting documents prepared for the SFBRWQCB in order to obtain stormwater NPDES permits.

148. Submit information estimating the water quality of the proposed MEC project's stormwater discharges to Fisher Creek.

ISSUE: Construction and operation of the MEC project may induce water and wind erosion at the power plant and along the associated linear facilities.

149. Please provide a draft erosion control and stormwater management plan that identifies measures that should be implemented at the power plant and associated facilities. The plan should identify all permanent and temporary measures in written form and depicted on a construction drawing(s) of appropriate scale. The elements of the plan should include temporary and permanent measures including stormwater runoff control efforts. Any measures necessary to address NPDES, Army Corp of Engineers or other local permits issued by the Santa Clara Valley Water District, City of San Jose and/or the County of Santa Clara should be identified. The plan should also identify maintenance and monitoring efforts for all erosion and stormwater runoff control measures.

ISSUE: There is a history of flooding in the general area of the MEC project. The AFC indicated that the levees protecting the Metcalf site from flooding of Fisher Creek are no longer maintained by a local district suggesting that the flooding analysis which was last performed by FEMA (1982) may not be reflective of current conditions. The AFC stated that "The City of San Jose requires that the project detain stormwater from the 25 year storm event." No citation was included with this statement. California Energy Commission staff has been informed that the Santa Clara Valley Water District is the agency that issues permits for stormwater discharges to Fisher Creek. The Santa Clara Valley Water District requires stormwater detention basins that are sized for a 100 year 24 hour storm event. The Santa Clara Valley Water District consults with the City of San Jose and Santa Clara County prior to issuance of permits to discharge to waterways within their jurisdiction.

The detection pond and drainage plan included in the AFC was sized for 10 acre and did not include all fenced areas of the site.

150. Please provide the Santa Clara Valley Water District stormwater detection and other flood control criteria established by the agency.

151. Please also provide copies of information submitted to the Santa Clara Valley Water District, the City of San Jose, and Santa Clara County regarding flood control permitting.

152. Submit information demonstrating that the MEC project will comply with requirements established by these agencies for flood protection.